DOCUMENT RESUME

ED 473 454 SP 041 357

AUTHOR	Fraser, Katherine
TITLE	Fit, Healthy, and Ready To Learn: A School Health Policy Guide. Part II: Policies To Promote Sun Safety and Prevent Skin Cancer.
INSTITUTION	National Association of State Boards of Education, Alexandria, VA.
SPONS AGENCY	Centers for Disease Control (DHHS), Atlanta, GA. Div. of Adolescent and School Health.
ISBN	ISBN-1-58434-054-1
PUB DATE	2002-11-00
NOTE	38p.
CONTRACT	U87/CCU310215-02
AVAILABLE FROM	National Association of State Boards of Education, 277 South Washington Street, Suite 100, Alexandria, VA 22314 ($12). Tel: 703-684-4000; Tel: 800-220-5183 (Toll Free); Fax: 903-836-2313; e-mail: boards@nasbe.org; Web site: http://www.nasbe.org/catalog.html.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	*Cancer; Community Involvement; *Comprehensive School Health Education; Elementary Secondary Education; Family Involvement; Health Promotion; Outdoor Activities; School Policy; *School Safety
IDENTIFIERS	*Skin; *Sun; Sunburn

ABSTRACT

This publication is a supplementary chapter to "Fit, Healthy, and Ready to Learn: A School Health Policy Guide; Part I: General School Health Policies, Physical Activity, Healthy Eating, and Tobacco-Use Prevention." It discusses various aspects of a complete school policy and plan to promote sun safety. The first section "Purpose and Goals," explains that a strong statement of purpose and goals provides a firm foundation for sound policy, examining systematic needs assessment and program evaluation; The second section, "Sun Safety Education," notes that sound policies emphasize the importance of encouraging young people to routinely adopt sun-safe habits whenever they are outdoors in the daytime. It also discusses sun safety lesson reinforcement and teacher preparation. The third section, "Outdoor Activities and the School Environment," explains that a sound program must stress educators' commitment to sun safety when students are outdoors, focusing on access to shade and scheduling physical education classes and other outdoor activities. The fourth section, "Sun Safety for School Staff," emphasizes that sun safety policies must go beyond classroom education, shade, and student behavior to focus on all staff. The fifth section, "Family and Community Involvement," explains that family and community involvement is integral to school health programs, and policies must explicitly address these aspects of sun safety. (Contains 31 references.) (SM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

SP 11 SPTR 0075

NASBE
NATIONAL ASSOCIATION OF STATE BOARDS OF EDUCATION

Fit, Healthy, and Ready to Learn

ED 473 454

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

B. Wellburn

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

28

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Part II: Sun Safety

BEST COPY AVAILABLE

A SCHOOL HEALTH POLICY GUIDE

Acknowledgements

NASBE extends its grateful appreciation to the following people who reviewed drafts and provided valuable advice and assistance:

Jim Bender, MHS, CHES
Senior Associate, Partnerships and Development
Academy for Educational Development

Phillip S. Benzil, DDS
President, Maryland State Board of Education
Chair, NASBE/NSBA Healthy Schools Network Steering Committee

Susan Boiko, MD
Kaiser Permanente Dermatology
Co-chair, National Council on Skin Prevention

David Buller, PH.D.
Director and Harold Simmons Chair
Cooper Institute, Golden, Colorado

Susan R. Derrick
Public Health Advisor
Division of Cancer Prevention and Control
Centers for Disease Control and Prevention

Jennifer Dunstan
Assistant Director, Community Relations
Albuquerque (NM) Public School District
Chair, Albuquerque Skin Cancer Prevention Core Team

Carolyn J. Fisher, ED.D., CHES
Health Education Specialist
Division of Adolescent and School Health
Centers for Disease Control and Prevention

E. Jane Gallucci, MA
School Board Member, Pinellas County School District, Clearwater, Florida
Southern Regional Director, National School Boards Association

Karen Glanz, PH.D., MPH
Director, Social and Behavioral Sciences Program
Cancer Research Center of Hawaii, University of Hawaii

Brenda Z. Greene
Director, School Health Programs
National School Boards Association

Don W. Hooper, ED.D.
Superintendent, Fort Bend Independent School District, Sugar Land, Texas
2002 President, American Association of School Administrators

Nosrat (Nassi) Irannejad, MPH
Education Program Specialist
Division of Adolescent and School Health
Centers for Disease Control and Prevention

Andrew Manthe, MPH, CHES
Chief, Skin Cancer Prevention Program
California Department of Health Services

Linda Rutsch, MPH, MBA
Director, SunWise School Program
Environmental Protection Agency

NASBE Safe and Healthy Schools Project

Carlos A. Vega-Matos, MPA, Associate Executive Director
Jim Bogden, MPH, Project Director
Lori Meyer, Senior Project Associate
Kellie J. Cosby, MPH, Project Associate

Fit, Healthy, and Ready to Learn

A School Health Policy Guide

Part II: Policies to Promote Sun Safety and Prevent Skin Cancer

By Katherine Fraser

November 2002

NASBE
NATIONAL ASSOCIATION OF STATE BOARDS OF EDUCATION

Copyright ©2002 by the National Association of State Boards of Education. All rights reserved. ISBN 1-58434-054-1.

This publication was developed under a cooperative agreement with the Division of Adolescent and School Health of the U. S. Centers for Disease Control and Prevention (CDC); grant #U87/CCU310215-02. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

BEST COPY AVAILABLE

Table of Contents

1. **Purpose and Goals** **6-3**
2. **Sun Safety Education** **6-8**
3. **Outdoor Activities and the School Environment** **6-15**
4. **Sun Safety for School Staff** **6-21**
5. **Family and Community Involvement** **6-25**

References **6-29**

Part II: Policies to Promote Sun Safety and Prevent Skin Cancer is a supplementary chapter to *Fit, Healthy, and Ready to Learn: A School Health Policy Guide; Part I: General School Health Policies, Physical Activity, Healthy Eating, and Tobacco-Use Prevention.*

Table of Contents of Part I:

Chapter A. Overview

1. Introduction A-1
2. The Sample Policies A-5

References A-24

Chapter B. The Art of Policymaking

1. What Is "Policy"? B-3
2. The Policy Development Process B-7
3. Who's Who in Education Policymaking B-17
4. Enlisting Public Support B-23

References B-26

Chapter C. General School Health Policies

1. A Vision for School Health C-3
2. The Coordinated School Health Program C-9
3. Administration and Evaluation C-23
4. Health Education C-33
5. Well-Prepared Staff C-41

References C-50

Chapter D. Policies to Encourage Physical Activity

1. Purpose and Goals D-3
2. Physical Education D-11
3. Extracurricular Physical Activity Programs D-23
4. Other Opportunities for Physical Activity D-33
5. Safety Guidelines D-37

Appendix: HIV, AIDS, and School Athletics D-47

References D-49

Chapter E. Policies to Encourage Healthy Eating

1. Purpose and Goals E-3
2. Nutrition Education E-11
3. The Food Service Program E-17
4. Other Food Choices at School E-27
5. Services for Nutrition-Related Health Problems E-37

References E-39

Chapter F. Policies to Discourage Tobacco Use

1. Purpose and Goals F-3
2. Tobacco-Free Environments F-11
3. Tobacco-Use Prevention Education F-19
4. Assistance to Overcome Tobacco Addiction F-27

References F-30

Index

Part II: Policies to Promote Sun Safety and Prevent Skin Cancer can be ordered for $12.00 each plus $4.50 shipping and handling. *Part I*, which is distributed as a set of three-ring binder contents, can be ordered for $22.00 plus $4.50 shipping and handling. Both parts can be ordered together for $28.00 plus $4.50 shipping and handling.

To order, call the National Association of State Boards of Education at (800) 220-5183; FAX to (703) 836-2313; order through the Internet at **www.nasbe.org/catalog.html**; or write to 277 South Washington Street, Suite 100, Alexandria, VA 22314, USA. Orders under $50.00 must be prepaid; purchase orders, VISA, and MasterCard are accepted. Volume discounts are available.

Additional chapters currently in development include *Policies to Prevent HIV Infection, Other STDs, and Pregnancy Among Young People*, and *Policies for the Prevention and Treatment of Asthma in Schools*. Purchasers of previous parts are notified when new chapters become available.

G. Policies to Promote Sun Safety and Prevent Skin Cancer

Skin cancer is the most common kind of cancer in the United States and occurs more often than all other cancers combined. About 20 percent of North Americans can expect to get skin cancer during their lifetimes. The incidence of melanoma, the most dangerous—yet preventable—type of skin cancer, has increased 150 percent in the U.S. since 1973.

The lifetime risk of getting skin cancer is linked to sun exposure in childhood. A child's skin, particularly before the age of ten, is especially vulnerable to the harmful effects of ultraviolet (UV) rays. A good deal of one's lifetime exposure to sun is during childhood and adolescence, including those many hours out on school playgrounds and sports fields. This does not mean that young people should limit their physical activity—to the contrary; most of them should exercise regularly and rigorously throughout their lives. What it means is that practicing sun safety needs to become a lifelong habit.

Sunlight is a Carcinogen

Solar radiation (including ultraviolet or UV rays) was classified by the federal government as a "known human carcinogen" in the *Ninth Report on Carcinogens* issued by the U.S. Public Health Service in 2001.[1] Thus, UV rays formally joined a group of cancer-causing agents such as asbestos, arsenic, radon, and tobacco smoke.

In 2002, the Centers for Disease Control and Prevention (CDC) published *Guidelines for School Programs to Prevent Skin Cancer*[2] that make it clear that schools, along with families and communities, have a role to play in promoting sun safety. Fortunately, starting up a program does not need to be difficult or expensive—and it can make a big difference in the future health of children and employees. An effective school health program can, and often does, start with small steps such as putting up posters and discussing sun protection at a staff meeting. Information for students can slowly be integrated into academic, health, and physical education programs. Little by little sun safety can become an integral part of the school health program's aims.

This chapter will look at various aspects of a complete school policy and plan to promote sun safety, which include:

- *Purpose and goals.* A strong statement of purpose is the foundation for sound policy. It explains the initiative to the public and communicates policymakers' priorities.
- *Sun safety education.* Health education should be active, positive, engaging, and appropriate to the ages, concerns, and behaviors of the children involved. Sun safety education can be made a vital aspect of a coordinated school health program and integrated throughout the general curriculum. It should be taught by

7 BEST COPY AVAILABLE

teachers who have been adequately prepared for their roles.

- *Outdoor activities and the school environment.* Children and adolescents need to know how to protect their skin when they are outdoors by using protective clothing, hats, sunglasses, sunscreen, and lip balm. Schools can help assure that students are "sun safe" when they are outside for physical education, recess, lunch, after-school sports, band practice, and other activities. Schools should also assess how much shade is available on the campus and assure that plans for renovations and new buildings give shade a high priority.

- *Sun safety for school staff.* Adult staff, especially those who spend significant parts of their days outdoors, need information about sun safety. If practiced consistently, sun safety practices can delay skin aging and wrinkling and prevent painful sunburns. Sunglasses protect against UV damage, which has been linked to cataracts.[3] School health professionals such as nurses need preparation to effectively counsel and advise students about sun protection, as well as to build support for it. In addition, all staff members are role models for students in regard to their personal health and behavior.

- *Family and community involvement.* Families, schools, and communities need to work together to preserve and protect the health of students. Schools may not take an active role in implementing sun safety programs until adults in the community have been educated about the issue and are convinced of its importance.

This chapter presents a comprehensive sun safety policy that is divided into five sections. Following each segment of the sample policy is supporting information and a list of key resources.

About the Sample Policies

All of the sample policies in all parts of *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* are available at www.nasbe.org/healthyschools/fithealthy.mgi. Users are encouraged to download these sample policies to adopt or adapt to fit their governance system and locally-determined points of view. They were designed to be used at the state, school district, or school level and are applicable to public or private schools.

If used, the following courtesy attribution is requested: "These policies first appeared in *Fit, Healthy, and Ready to Learn: A School Health Policy Guide* by the National Association of State Boards of Education. Reprinted with permission of the author."

1. Purpose and Goals

A strong statement of purpose and goals provides a firm foundation for sound policy. Such a statement of intent explains the policy to the public and communicates the priorities of education leaders. Policies can be adopted at the state, district, or school level

Sun Safety Sample Policy, Part One:

INTENT. The *state legislature/state board/local school board* is committed to preventing skin cancer, the most prevalent form of cancer, among the students and employees in its schools. Acknowledging that students spend a significant amount of time in the sun during school hours and after school in sports and recreation programs, as well as that unprotected exposure to the sun in childhood and adolescence contributes significantly to the incidence of skin cancer, the *state legislature/state board/local school board* intends that schools shall take measures to protect student health. All students should possess the knowledge, attitudes, and skills necessary to protect their skin from harmful sun exposure and thereby help to prevent skin cancer. The *state legislature/state board/local school board* further recognizes that skin cancer prevention is important for all school workers, particularly for those who spend significant portions of their day in the sun. Finally, the *state legislature/state board/school board* acknowledges the essential role of family and community involvement in the school sun safety program.

It is not the intent of this policy that schools eliminate physical education or other outdoor programs during or after school. Students need daily, vigorous exercise, but they also need to protect their skin from overexposure to the sun.

School leaders shall prepare, adopt, and carry out a comprehensive sun safety plan that includes:

- a sequential program of sun safety education that is integrated within both the general and health education curricula and coordinated with outdoor measures at school to prevent skin cancer. This program shall be taught by well-prepared and well-supported staff and shall be aimed at influencing students' knowledge, attitudes, and behaviors while outdoors;
- measures to promote or require student use of protective items such clothing, hats, sunglasses, sunscreen, and lip balm during all outdoor activities, including physical education, recess, and all before- and after-school activities;
- an assessment of the amount of shade on the school campus and a plan to increase this amount of shade if needed, as well as an assessment of the practicality of rescheduling outdoor activities that take place during the hours of peak sun intensity;

- education and encouragement for school staff to adopt and model sun-safe behaviors, especially staff members who spend significant amounts of their day in the sun, and specific training for school health service providers;
- strategies to involve families and the community in supporting the program; and
- an evaluation of ongoing policy development, program implementation, and program outcomes.

RATIONALE. Skin cancer is the most prevalent cancer in the United States, is linked to sun exposure in youth, and is preventable. As students spend time outdoors during physical education, recess, sports, band practice, and other school activities, schools have a responsibility to work with families and communities to protect students' future health by educating them about protecting their skin and adopting sun-safe behaviors while outdoors. School health curricula that contain developmentally appropriate, accurate information; actively engage students and give them a chance to practice and learn skills; are of sufficient duration; and include teacher training can positively affect students' health-related behaviors.

DEFINITIONS. For the purposes of this policy:

"Sun safety" describes a range of behaviors that include the wearing of dark, close-knit clothing that covers the arms, body, and legs; the wearing of wide brimmed (three inches or more) hats or baseball-type hats with side and back flaps added that cover the face and neck; the correct use of broad-spectrum sunscreen of at least sun protection factor (SPF) 15; using lip balm with an SPF of 15 or higher; wearing sunglasses that filter out 100 percent of ultraviolet B (UVB) and ultraviolet A (UVA) light; and, where possible and practical, seeking shade and limiting sun exposure during the hours of peak sun intensity, 10:00 AM to 4:00 PM. It also describes a school environment that offers adequate access to shaded areas.

Discussion

Like avoiding tobacco, practicing sun-safe behavior is an important way to prevent cancer. Today skin cancer is considered an epidemic. It is the most common form of cancer in the United States and it is increasing at an alarming rate. The incidence of melanoma, the most dangerous kind of skin cancer, has more than doubled since 1973. Mortality rates have increased 44 percent since then.[4] Melanoma now accounts for more than three fourths of all skin cancer deaths.

There are compelling reasons for targeting children and adolescents with sun safety programs:

- Young people generally spend much more time outdoors than adults. Most people receive a majority of their lifetime sun exposure before the age of 18.

Effects of the Sun

Beneficial: Sunlight helps the body to synthesize vitamin D and could prevent seasonal affective disorder, a condition in which people become depressed when there is less sunlight. There is a growing body of evidence that sunlight's (UVB's) effect of synthesizing vitamin D helps protect against many cancers, including those of the prostate, colon, ovaries, and female breast.[5] Thus, too little sunlight can be harmful but it is not necessary to be tanned or to get a sunburn to receive a healthy dose.

Harmful: Overexposure to the sun prematurely ages the skin, increases the risk of several kinds of skin cancers, and may suppress the immune system. The UVB radiation in sunlight has also been linked to the development of cataracts.[6]

- A person's chance of developing melanoma later in life is directly related to sun exposure before the age of 18.[7]
- One blistering sunburn during childhood or adolescence nearly doubles the lifetime risk of melanoma.[8]
- In general, prevention works best when consistent, healthy habits are adopted early in life.

The role of the schools

School administrators already address numerous safety concerns such as fire escape plans, earthquake drills, asbestos elimination, closed campuses, and the like, but too often they devote little attention to protecting students from UV rays. Many administrators feel that they already have their hands full with efforts to keep students safe and healthy. In this context, it is important to acknowledge that sun safety programs can be flexible and "start small." A useful first step is to raise awareness because sun exposure is more dangerous than many people think. Years later, a heavy price, even death from melanoma, may have to be paid for what seemed to be harmless "fun in the sun."

Adults—including families, decision makers such as school board members, and other community members—will very likely need to be educated about the prevalence of skin cancer and the need for action. As with any new school initiative, the process of making policy should involve as much of the community as possible. The policymaking process itself is educational and can change people's minds. (For a full discussion of the process, read "The Art of Policymaking," in Part I of *Fit, Healthy, and Ready to Learn.*)

Schools can move towards actions that are practical and doable. Different locations have started in different ways. Some schools initially changed policies that prohibited hats or sunglasses while others began inserting sun safety information into an existing health curriculum or science class. School health councils, where they exist, are likely to be an important part of getting and keeping a

Types of Skin Cancer

Several kinds of skin cancer are associated with sun exposure:[9]

- The two most common types of skin cancer are highly curable if they are detected and treated early. Basal cell carcinoma is often seen as a pale, waxlike nodule resembling a pear. Squamous cell carcinoma is often seen as a sharply outlined red and scaly patch.
- Melanoma, a less common type, often appears as a small, mole-like growth that increases in size and changes color. The mole may be asymmetrical; have an irregular border; be variable in color with shades of tan, brown, or black; or may increase in size. Melanoma is more dangerous and can quickly spread to other parts of the body, but it, too, is treatable, especially if caught early.

BEST COPY AVAILABLE

program going. There are many sources of help listed in the lists of resources that follow each part of this document.

Assessing policy needs

A systematic needs assessment before beginning a sun safety program can establish a context for future action. Program planners may wish to consider the following:

- the school's geographic location, taking into account factors that strengthen the effect of UV rays such as Southern latitude, higher altitude, and proximity to water, snow, ice, and sand;
- the percentage of school students who are at highest risk of skin cancer based on their skin, eye, and hair color;
- whether policies exist at the state or local level that promote—or inhibit—sun safety practices, such as policies that prohibit hats, sunglasses, or the use of sunscreen without a doctor's note or prescription; and
- the practices and norms of students. How do students dress? How much sun protection do their clothes give them? How many students use sunscreen or tanning beds? Is lying outside to get a tan popular?

Australia's *SunSmart* Program

Australia, which has the highest rate of skin cancer in the world, started prevention programs 20 years ago. In a coordinated effort, states in that country developed media campaigns, supported school programs, developed policies for schools and workplaces, and made environmental changes such as providing more shade.

The *SunSmart* program of the Anti-Cancer Council of Victoria helps schools develop policies and programs. A wealth of material is available from this internationally recognized program (see Resources on the next page).

The Anti-Cancer Council of Victoria reported in 1999 that decreases in non-melanocytic (i.e., common) skin cancers in persons under 50 year shows that campaigns such as *SunSmart* are working.[10]

Principals' Policy Resource Needs

In one survey, these were the policy resources desired by school principals.[11]

- **sun safety information for staff (95%);**
- **example of school sun safety policy (88%);**
- **printed sun safety materials for parents (87%);**
- **instructions for creating policy (78%);**
- **seminar on sun safety for parents (60%);**
- **tools to evaluate the environment and policy (53%); and**
- **consultation on drafting policy (47%).**

Evaluation

Finally, when starting a new program it is important not to forget about evaluation. This does not have to be complicated, but it is a way of checking back to see if the program goals are being met. Is sun safety taught as a regular part of the health education program? Have family members been informed about the program and are they involved? Are students allowed to wear hats and use sunscreen when outdoors? Roughly what proportion of students wear hats outside on the playground? Has the amount of shade been increased? Does the student and parent handbook address sun protection?

More complex evaluations can determine whether school programs are being effective. While these kinds of evaluations are more difficult and may require help from a

Past, Present, and Future

"As a dermatologist, pediatrician, and mother of three freckle-faced, athletic girls, I face the spectres of skin cancer past, present, and future at home and at work. Skin cancers past and present, I see daily—over 500 basal cell carcinomas, over a hundred squamous cell carcinomas, and 28 melanomas [in 2001]. I am struck with how many of these cancers could have been prevented had sun safety practices such as avoiding the midday sun, wearing a hat, and seeking shade been used routinely, even in the days before sunscreen. Eighty percent of lifetime sun exposure occurs before age 18.

"My girls, with their blue eyes, freckles, and easy sunburning fall into the highest risk category for every kind of skin cancer. I am grateful that the new California legislation allows them to wear hats and sun protective clothing outdoors at school...

"My children represent the future of skin cancer prevention. If "slip, slop, slap, wrap"* becomes as routine as brushing their teeth, another important health habit will have been learned and practiced daily at school."

Susan Boiko, MD

***"Slip, slop, slap," sung on Australian television by a cartoon seagull, was coined as part of a skin cancer prevention media campaign begun in 1980. The meaning is: "slip" on protective clothes, "slop" on sunscreen, and "slap" on a hat. You should also "wrap" on sunglasses.**

university, data supporting program effectiveness is a powerful tool for obtaining funding to sustain and expand successful programs.

Resources

- Your state or local education agency or public health department might have data to assist in program planning or have other resources to offer.

- The **Centers for Disease Control and Prevention** (CDC) has several sources of support. Its *Guidelines for School Programs to Prevent Skin Cancer* is available online at **www.cdc.gov/cancer/nscpep/guidelines.htm**. CDC's sun safety program, *Choose Your Cover* at **www.cdc.gov/chooseyourcover**, includes facts, parent information, and documents to download or order. A searchable database with articles about skin cancer is at **www.cdc.gov/cdp/cp.htm**.

- The **National Association of State Boards of Education** (NASBE) and the **National School Boards Association** (NSBA) both operate school health resource databases that contain many sample policies. NASBE's database focuses on state-level policies, and NSBA has compiled a large number of school district policies and support documents. NSBA has also compiled excerpts from key documents and sample district policies in a *Skin Cancer 101* packet. Both organizations can provide up-to-date information on policy topics, information on people's experiences in implementing policies, consultation on specific policy issues, and referrals to other experts in the field.
  - Contact NASBE at (703) 684-4000, healthy@nasbe.org, or **www.nasbe.org/healthyschools**;
  - Contact NSBA at (703) 838-6722, schoolhealth@nsba.org, or **www.nsba.org/schoolhealth**.

- The **Anti-Cancer Council of Victoria**, Australia, has many materials on its website at **www.sunsmart.com.au**, including policy and program guidelines and materials for schools and employers. Download policy guidelines for schools at **www.sunsmart.com.au/s/schools/scp_policy.htm**.

- The **National Council on Skin Cancer Prevention** is a coalition of organizations that are interested in skin cancer prevention. Subscribe to a quarterly electronic newsletter with information about skin cancer and upcoming events and activities at **www.skincancerprevention.org**.

- The **American Cancer Society** has materials including pamphlets, brochures, and posters. Call your local chapter or the national office at (800) ACS-2345, or go to **www.cancer.org**.

- The *Ninth Report on Carcinogens*, published by the **U.S. Public Health Service** in 2001, has a section entitled "Solar Radiation and Exposure to Sunlamps or Sunbeds" that explains why sunlight is considered a carcinogen and reviews the risks associated with sunlamps and sunbeds. To find and download this document, go to **search.nih.gov/index.html**, which is a search engine, and type in the title of the section.

- The **California Department of Health Services** has a Skin Cancer Prevention Program with many resources that can be downloaded or ordered, including curricula materials, a preschool package, posters, videos, policies, and more. Call (916) 322-2154 or visit **www.dhs.ca.gov/cpns/skin/index.html**.

- The **Norris Cotton Cancer Center** at the Dartmouth-Hitchcock Medical Center in New Hampshire has a SunSafe Project with materials for parents, educators, and health care providers, including downloadable curricular materials for preschool and elementary students and program information for middle schools. Call (603) 650-8380 or visit **www.dartmouth.edu/dms/sunsafe**.

- The **Los Angeles Metropolitan Dermatological Society** maintains a site with information about many issues related to sun safety and the schools, including background information, policy worksheets, sources for purchasing needed items, and sample letters for parents, at **www.sunsafetyforkids.org**.

- The **Skin Cancer Foundation** in New York, New York has information about the different kinds of skin cancer, including photographs, at **www.skincancer.org**.

- The **American Academy of Pediatrics** has a policy statement entitled "Ultraviolet Light: A Hazard to Children" with facts and recommendations at **www.aap.org/policy/re9913.html**.

Note

The organizations included as resources in this guide offer a broad range of assistance, have a national scope, are easily accessed, have information or materials available at low or no cost, or offer specialized expertise. The lists are not exhaustive. Consider the resources listed here as starting points.

2. Sun Safety Education

A sound policy emphasizes that the primary goal of sun safety education is that young people routinely adopt sun-safe habits whenever they are outdoors in daytime.

Sun Safety Sample Policy, Part Two:

INSTRUCTIONAL PROGRAM DESIGN. Sun safety topics shall be integrated within the sequential, coordinated health education program taught at every grade level, pre-kindergarten through grade twelve. This educational program shall focus on students' behavior when they are outdoors, be based on theories and methods proven effective by published research, and be consistent with the *state's/district's* health education *standards/guidelines/framework*. Sun safety education shall be designed to help students acquire:

- knowledge about the harmful effects of the sun and ways to protect the skin;
- sun-safe skills, including the correct use of protective clothing, hats, sunglasses, sunscreen, and lip balm, as well as seeking shade and limiting sun exposure when possible and practical, during the hours of peak sun intensity; and
- knowledge about how to assess one's sun safety habits, set goals for improvement, and achieve those goals.

The program shall be developmentally appropriate, active, engaging, and taught in lessons that emphasize the positive benefits of sun safety. The program shall engage families as partners in their children's education.

The school health council shall assess all sun safety curricula and materials for accuracy, completeness, balance, and consistency with the *state's/district's* educational goals and standards.

STAFF QUALIFICATIONS. Staff responsible for sun safety education shall be well prepared and regularly participate in professional development activities to effectively deliver the sun safety educational program as planned. Preparation and professional development activities shall provide basic knowledge of skin cancer prevention, combined with skill practice in program-specific activities and instructional techniques and strategies designed to promote sound, consistent behaviors to protect the skin from sun damage.

EDUCATIONAL REINFORCEMENT. Sun safety education shall be closely coordinated with other sun safety efforts, such as projects to increase the amount of shade on the school campus. In addition, sun safety concepts shall be integrated into subject areas such as science, geography, and mathematics.

Discussion

Research shows that well-designed and -carried out health education programs can increase students' knowledge and help them to adopt healthier attitudes and behavior. As with other health subjects, sun safety education is best taught as part of a comprehensive health education curriculum that helps students to understand the relationships between their behavior and their health.

Health education is most effective when it is taught repeatedly and reinforced over time. Although "one shot" lectures or school events are important and can help raise awareness, their effects are often short lived. More successful programs are provided consistently and sequentially from year to year so that knowledge and skills can be reinforced and strengthened throughout a student's educational career.

States with Education Policies

According to a year 2000 study, 12 states—Alabama, Delaware, Kentucky, Maine, Massachusetts, Missouri, Nevada, Oregon, Rhode Island, Utah, Virginia, and West Virginia—and the District of Columbia reported that they require sun safety or skin cancer prevention education.[12]

Students are more likely to adopt new health behaviors when they learn in active, participatory ways. The Resources list at the end of this section includes sources for help in designing activities and lessons. The Environmental Protection Agency (EPA), for example, has a free *Sun Wise* kit that includes a popular UV-sensitive plastic throwing disk. "Kids love the UV-sensitive Frisbee™," says Linda Rutsch of the *Sun Wise* program. "It's a great teaching moment. You can't see the UV radiation or feel it, but you can see the effects it has on this Frisbee™. And putting sunscreen, sunglasses, and a hat on the Frisbee™ protects it."

What Works in School-Based Sun Protection Programs[13]

- **Effective sun protection education requires multi-unit instruction over multiple years.**
- **Sun protection education should be part of an effective community-wide sun safety program.**

Health education should also be tailored to the developmental level of students. Young children might learn through puzzles and games. Some educators have suggested that the word "cancer" be left out of lessons for young children as it may frighten them, particularly if they have personal experience with the disease. They might not hear the message about sun protection. Instead, emphasis can be put on sunburn and tanning. Young children are likely to understand that sunburn hurts.

As students move into middle and high school they typically become influenced by peer and societal pressures to appear tanned. These attitudes need to be directly addressed in lessons about sun safety, stressing that tanning salons are not safe and that "self tan" lotions are a viable alternative. Students may find it interesting to analyze the societal pressure for light-skinned people to appear darker. They can also look at the vulnerability of people worldwide to skin cancer and its relationship to skin color and latitude. Adolescents might be more receptive to positive messages emphasizing the attractiveness of skin that is not damaged by the sun—and to understand that premature wrinkling and aging of the skin is a concern for everyone, regardless of

Skin Cancer Risk Factors and Skin Color

Anyone can get skin cancer, no matter how light or dark their skin, but people are at greater risk if they have any of the following:[14]

- **fair skin that freckles or burns easily;**
- **red or blond hair;**
- **family history of skin cancer;**
- **a history of unprotected exposure to the sun;**
- **a history of sunburns early in life;**
- **atypical moles; or**
- **a large number of moles.**

Darker-skinned people have a lower risk of skin cancer, but they are not immune from the disease. There is some evidence that African Americans die more quickly of melanoma but this may be because many consult dermatologists when the disease is more advanced.[15]

Although dark skin provides some protection against skin cancer it does *not* protect against painful sunburns or premature aging and wrinkling. Also, darker-skinned people who do not wear sunglasses may develop cataracts from sun exposure.

Vulnerability to skin cancer is not a matter of racial heritage or ethnicity, but is based on the darkness or lightness of an individual person's skin. Each person should consider the factors listed above and assess his or her own risk. Everyone needs to practice sun safety every day.

the darkness or lightness of their skin. Students should also assess their own risk for skin cancer, and this can be done for a class or a school, as well.

Timing is important. Sun safety lessons are particularly relevant when students will be exposed to higher levels of UV radiation. Students need lessons in the winter if they will be engaging in outside sports such as skiing or snow boarding. Ice and snow reflect sunlight, and UV radiation is more intense at higher altitudes. Lessons are important before spring breaks and summer vacations as well. Students who will be spending time in swimming pools, at lakes, or on ocean beaches need to know that water and sand reflect and intensify sunlight.

Finally, teaching about sun safety should always be linked to students' actual activities when they go outside.

Lesson reinforcement

Sun safety lessons can easily be integrated into other courses. For example, a science class might study the health threats posed by ozone depletion or the meaning of the UV index. The EPA maintains an Internet site where students can search for the daily UV index for their local area by zip code. Students can compare this with measurements they make themselves with a handheld UV meter and learn about the effects of factors such as time of day and year, altitude, latitude, and weather conditions on UV radiation.

In computer classes, students can access Internet sites that provide sun protection information and related activities. Social studies or geography classes can consider skin cancer incidence in different parts of the world, taking into consideration factors such as proximity to the equator and the relative darkness or lightness of the skin. Materials in

BEST COPY AVAILABLE

the Resources section contain activities that could be part of a mathematics, language arts, or art class.

Health educators may wish to examine national, state, and local health and education standards to see how sun safety education can be integrated into these. For example, the School District of Palm Beach County, Florida, shows teachers exactly which of the *Sunshine State Standards* in science, language arts, and health can be satisfied by using lessons from a skin cancer prevention curriculum.[16]

Health education at school can be reinforced by linking with recreation, sports, or swimming pool sun safety efforts in the community. For example, schools could link with the award-winning *Pool Cool* program developed in Hawaii, which is aimed at sun protection in and around swimming pools and now operates in communities throughout the country. Another possibility is linking with local prevention programs sponsored by the American Cancer Society.

Finally, students can be important educators and role models themselves. They can learn to teach their families about sun protection and can also design programs, special events, and other activities to raise awareness. For example, they could promote sun-safe practices during fund-raising car washes. Before the senior prom students could create and carry out a social marketing campaign that promotes the use of self-tanning lotion as an alternative to tanning beds or lying in the sun for students who want to look tanned.

Teacher preparation

The effective teaching of health education requires special knowledge and skills. Unlike many other subject areas, such as biology and mathematics, the goal is to influence students' attitudes and behaviors as well as their knowledge and skills. Issues such as perceived invulnerability to risk, common among young people, need special attention from well prepared teachers who have been provided with adequate resources and materials. Health-related attitudes and behavior are notoriously difficult to influence and change.

Teachers need opportunities to learn what the research says about the effective teaching of health education as well as opportunities to practice the relevant instructional techniques. They have to practice, for example, to lead discussions and exercises in which students

Tanning Beds and Cancer

Many people, including adolescents, assume that tanning beds are a safe way to get a tan. This is not true. Exposure to sunlamps and sunbeds cause cancer, according to a 2001 report of the Public Health Service.[17] The same UV rays (UVA and UVB) in sunlight that damage the skin are provided by sunlamps, though in different percentages, depending on the salon. The FDA requires that sunlamp products carry the warning: "DANGER—Ultraviolet Radiation."

Numerous studies show that sunlamps are particularly popular with young people, especially young women. A study of high school students in St. Paul, Minnesota, found that 35% had used commercial sunbeds at least four times in the past year, and 59% of users reported some skin injury.[18]

Adolescents and adults should understand that a tan is *always* a sign of skin damage—unless it comes from a bottle. "Self tan" lotions are a safe and easy alternative and should be promoted for young people who want to look tanned.

can learn to personalize the issue and develop skills. As for all teachers, mentoring and ongoing professional development are important support measures.

Resources

- The U.S. **Environmental Protection Agency** (EPA), through a program called *SunWise*, provides elementary and middle schools with a (currently) free Tool Kit, an attractive box of materials that includes classroom activities for grade levels K–2, 3–5, and 6–8; teacher materials; a comic book; a UV-sensitive plastic throwing disk; and a hand-held UV meter if requested. A Spanish version is being developed. Go to **www.epa.gov/sunwise** or call (202) 564-2261. Also, a daily UV index for local areas, searchable by zip code, is available at **www.epa.gov/sunwise/uvindex.html**.

- The **Centers for Disease Control and Prevention** (CDC) has a skin cancer module developed for students to learn more about skin cancer and epidemiology for the 2002 National Science Olympiad. The materials also have multiple potential applications for biology, other science, and health education purposes in the classrooms of high schools and possibly some middle schools. Find it at **www.cdc.gov/excite/skincancer/index.htm**.

- The **AMC Cancer Research Center** in Denver, Colorado has *Sunny Days Healthy Ways*, a comprehensive K-5 curriculum guide with teacher lesson plans, student activities, and assessments on CD-ROM. The program for students in the 4th and 5th grades uses interactive multimedia lessons, exercises, and games. The Center reports that an evaluation of *Sunny Days Healthy Ways* shows that children report more sun precautions and show less tanning after receiving the curriculum. Go to **www.sdhw.info** or call (877) 258-2915.

- The **Richard David Kann Melanoma Foundation** in West Palm Beach, Florida has developed a *SunSmart America* curriculum for high school, middle school, and elementary grades that is adapted to meet Florida's statewide educational standards in science, health, and English; other education mandates; and the state's standardized testing programs. Lessons for the elementary grades are translated into several languages. For more information, call (561) 687-2400 or visit **www.melanomafoundation.com**.

- The **Maryland Skin Cancer Prevention Coalition** has a middle school curriculum and other educational materials downloadable at **www.sunguardman.org/core.shtml**.

- The **American Academy of Dermatology** has a *Block the Sun, Not the Fun* program with materials for students in kindergarten through grade three. Go to **www.aad.org/btsntf/btfnts1.html**. A special Kid's Connection section with information for children from ages eight through adolescence is at **www.aad.org/Kids/index.html**.

- The National Safety Council's **Environmental Health Center** has a *Sun Safety Activity Guide* that includes cross curriculum classroom activities, a stand-alone lesson plan, and sample documents and resources. The lessons are designed for elementary school students. The guide can be downloaded from **www.nsc.org/ehc/sunsafe.htm** or call (630) 285-1121.

Choosing a Sun Safety Curriculum

A variety of curricula have been developed to teach sun safety in schools, some of which are listed here. None of them is endorsed by or has been evaluated specifically for this publication.

In choosing a curriculum, it is important to find out whether it has been evaluated and whether it has been successful in changing students' knowledge, attitudes, and behavior over time. Studies that can demonstrate changed *behavior* are most useful, especially if these effects endure over months or a year.

Curricula should also suit a particular locality. Some curricula may need to be adapted to fit national, state, and local education standards and conditions, especially if they were written specifically for certain regions or states.

BEST COPY AVAILABLE

- The Children's Sun Protection Program of the **Skin Cancer Foundation** offers a *Sunny States of America* educator's kit for elementary school students with background information, games, and puzzles. The kit is currently free with payment of postage and handling. Call (800) Skin-490 or write to the foundation at Box 561, Department SA, New York, NY 10156.

- The **M.D. Anderson Cancer Center** of the University of Texas in Houston has *Project S.A.F.E.T.Y.*, a science-based skin cancer awareness and prevention curriculum targeting students in grades 4–9. It consists of a three-lesson CD-ROM with an accompanying 80 page teacher's guide. The program is available to Texas schools on request and at cost outside Texas. Visit **www.mdanderson.org/departments/projectsafety** or call (713) 745-1205.

- The **Melanoma Education Foundation** in Peabody, Massachusetts has a downloadable lesson plan for high school health educators that uses a game show format. Visit **www.skincheck.com/mef_page_4.htm**, send an email message to MEF@skincheck.org, or write to the foundation at P.O. Box 2023, Peabody, MA 01960.

- *Pool Cool* from the **Cancer Research Center of Hawaii** is a research-based sun safety program for use with children ages 5-10 at swimming pools. Its (currently) free Toolkit for participating programs includes lesson and activity materials, a policy guide, a helpful list of sunscreen vendors and other providers of sun-safe products, and a computer disk with graphics and tips. For more information, go to **128.171.232.43/cbhrg/graphical_website/Projects/PoolCool/home.html**.

- The **American Association for Health Education** offers materials with which a teacher, coach, nurse, or other adult can make a presentation about skin cancer prevention for children up to the age of 13. These are available on CD with animation and sound, as a set of slides with a script, and as a set of overhead transparencies with a script. The association also has a summary of a meeting of the National Forum for Skin Cancer Prevention in Health, Physical Recreation, Recreation, and Youth Sports. Go to **www.sunsafety.org** or call (800) 321-0789.

3. Outdoor Activities and the School Environment

A sound skin cancer prevention policy needs to stress the commitment of educators to sun safety when students are outdoors. It must be flexible and acknowledge that schools should develop their own approaches.

Sun Safety Sample Policy, Part Three:

PROGRAM REQUIREMENTS. *Districts/schools* shall create, implement, and monitor a plan to address sun safety outdoors that considers measures such as protective clothing, hats, sunglasses, sunscreen, lip balm, and access to shaded areas on the school campus. This plan shall contain the following elements:

- ways to encourage students to wear sunglasses and protective clothing while outdoors;
- provisions that allow or require students to wear hats that protect the face, neck, and ears whenever they are outside. As head lice can be spread by sharing hats, this plan must include an educational component for students and families about the importance of not sharing hats. Specific hats that the *districts/schools* determine are gang related or inappropriate may be prohibited;
- an enumeration of ways, such as working with families and the community, to ensure that students have access to and use a SPF 15 (or higher) broad-spectrum, water-resistant sunscreen or lotion and lip balm;
- ways to encourage or allow students to apply sunscreen and lip balm before school and before outdoor activities. This plan shall consider the issue of sunscreen sensitivities and allergies; and
- ways to encourage students to seek shaded areas for outdoor activities and limit sun exposure, when possible and practical, during the hours of peak sun intensity. This plan may consider a review of student outdoor activities that take place during the hours of peak sun exposure, but it shall not include any suspension or scaling back of physical education programs.

In addition, all new school construction or renovation projects shall include a plan to provide shade for areas where students and staff congregate, such as playgrounds, sports fields, lunch areas, and waiting areas.

Finally, materials developed by businesses that promote protective items such as sunscreen, shirts, or hats shall take into account other *district/school* policies regarding commercial messages.

Discussion

Physical education classes, sports, and other outdoor activities are important and can be made safer. Here are the tools:

- *Protective clothing.* Protective clothing provides the first line of defense against skin damage. Tightly woven clothes and dark colors protect the best. Clothes made from denim, wool, polyester, and nylon tend to provide greater protection from UV rays, whereas cotton offers the least protection. Students who prefer cotton clothes can be encouraged to wear cotton/polyester blends. Another alternative is to wash cotton clothing with a UV-protective laundry treatment, which can greatly increase cotton's ability to block UV radiation.

Safe-Sun Uniforms

Hats, sunglasses, and protective clothing could become part of a new physical education or band uniform—or a school uniform. In one Australian school, students designed their own "safe sun" uniforms.

Schools have the options of encouraging students to wear clothes that cover their arms, legs, and torsos (and discouraging short sleeves), suggesting that students without adequate protective clothing stay in the shade, adopting a physical education uniform with long sleeves and pants, and adopting a school uniform policy that requires shirts with sleeves and collars. They can also provide guidance to students and families about which kinds of cloth provide the best protection.

Sunscreen in Perspective

Many people rely primarily on sunscreen to protect their skin. However, CDC recommends that the first approaches to preventing skin cancer should be avoiding the sun, seeking shade, and wearing protective clothing. Sunscreens are a complementary measure, but they must be used consistently and correctly.

- *Hats.* Hats are important and provide more or less shade for the face and neck depending on how they are constructed. Baseball caps leave much of the face unshaded no matter how they are worn. A baseball-type cap with side and back flaps would provide good protection, however. Wide-brimmed hats (more than a three-inch brim) are also protective. Schools have the option of encouraging or requiring students to wear hats when they are outdoors. They can also establish guidelines for acceptable kinds of hats.

Some school dress codes prohibit the wearing of hats, especially indoors, as they are considered disrespectful and can indicate gang affiliation. Policies have been developed at the state and local levels (see boxes on next page) to

"A Radiation Zone"

"When students are exposed to sunlight on school grounds, they have entered a radiation zone. Thus, skin cancer prevention measures such as increased shade options and encouraging students to wear a protective hat, UV-blocking sunglasses, long clothes, and sunscreen on exposed skin are all prudent steps for safety-conscious school sites to implement."

—Andrew Manthe, MPH, CHES
Chief, Skin Cancer Prevention Program, California Department of Health Services

promote hats and sun safety while dealing with the issues of disrespect and gangs.

A final issue regarding hats is the spread of head lice, a big concern for elementary school children in some locations. As head lice can be spread when children share hats students must be instructed, and school staff and families alerted, that "hat sharing" is not a good idea. School staff members who plan sun safety programs must consider the prevention of head lice when discussing the use of hats by elementary school students.

- *Sunglasses.* Long-term overexposure to sunlight can damage the eyes and is linked to the development of cataracts, but sunglasses can help. Sunglasses that block 100 percent of UVA and UVB are readily available and inexpensive. Some schools prohibit the wearing of sunglasses, however, especially indoors. They can reconsider this by encouraging all students and staff to wear sunglasses, but only while outside.

- *Sunscreen.* Sunscreen is the second line of protection for the skin, following clothing and hats. A broad-spectrum sunscreen protects against UVA and UVB and should be SPF 15 or higher and waterproof if someone will be sweating or swimming.

Studies have shown that most people put on an insufficient amount of sunscreen, which will not provide the SPF that is indicated for the product. Sunscreen should be applied thickly and generously and reapplied after sweating or swimming. A handful or so should be rubbed into the skin to cover the whole body. People who spend much of their day in the sun should reapply sunscreen often. For best results, sunscreen should be applied a half hour before going outside so that it can dry and be absorbed.

Albuquerque Public Schools Student Dress Code

"To avoid exposure to excessive UV radiation from the sun, students are encouraged to wear hats/caps outside of school buildings during recess, athletic and sporting activities, as well as during extracurricular activities that take place outdoors. Hats/caps must not advertise, display or promote any gang affiliation, drug, including alcohol or tobacco, sexual activity, violence, disrespect and/or bigotry toward any group."

—Albuquerque (NM) Board of Education, 2000

California's Sun Safety Legislation

In October 2001, the governor of California signed legislation requiring schools to allow students, when outdoors, to wear hats and clothing approved by the schools themselves.[19] The policy addresses concerns about styles and colors of hats that indicate gang affiliation and reads as follows:

(a) Each schoolsite shall allow for outdoor use during the school day, articles of sun-protective clothing, including, but not limited to, hats.

(b) Each schoolsite may set a policy related to the type of sun-protective clothing, including, but not limited to, hats, that pupils will be allowed to use outdoors pursuant to subdivision (a). Specific clothing and hats determined by the school district to be gang-related or inappropriate apparel may be prohibited by the dress code policy.

The law also states that if this mandate contains costs mandated by the state, reimbursements to local agencies and school districts will be made.

BEST COPY AVAILABLE

Sunscreen Use Among High School Students

In a recent study of U.S. high school students, only 13.3% reported that they use sunscreen "most of the time" or "always" when they were outside for more than an hour on a sunny day.[20] Furthermore:

- **Younger students were more likely to report wearing sunscreen than older students.**
- **Female students (18.1%) more frequently reported using it than male students did (8.6%). This study did not gather information to help explain this phenomenon but it could be linked to young women's desire to maintain their attractiveness and avoid wrinkling.**
- **Only 4.8% of African American students said they were frequent sunscreen users.**
- **Students engaged in other health risk behaviors such as cigarette smoking, not using a seat belt, and using drug and alcohol were less likely to report sunscreen use. Other studies have shown that risky behaviors tend to cluster.**

Sunscreen is by no means a perfect approach as it is like a "screen door" that lets some light through. In addition, sunscreen use should not be an excuse to tan or spend endless amounts of time under a strong sun. A tan is a sign of skin damage.

True allergies to sunscreen are rare but some people are sensitive to an ingredient in a particular brand. They can try another brand, as formulas differ. Students or adults can also test for sensitivity by applying a small amount of sunscreen to a spot on the underside of the forearm and then checking for a reaction during the next 24 hours.

Options for schools include encouraging students to use sunscreen, allowing them to use it at school, providing time for them to apply it before going outdoors, selling or providing it, and asking families to make sure that their children apply it before coming to school.

There are policy issues to consider in this regard. Because the FDA regulates sunscreen, some states and school districts do not allow students to carry sunscreen or use it at school without a doctor's note or prescription. These policies can be amended.
Some have suggested that teachers or school nurses could apply sunscreen to young children with parental permission. This practice could potentially raise liability issues if the student has a reaction to the sunscreen. In addition, questions could arise about possible inappropriate contact between students and staff. Further, it is important that children learn to care for their own bodies and health with actions that they take themselves. Even young children can learn to apply their own sunscreen and it is important that they do so.

- *Lip Balm.* Because lips need protection from the sun and many people find it disagreeable to put sunscreen lotion on their lips, a lip balm of SPF 15 or higher is recommended.

When it comes to protecting oneself from UV radiation, some protection is better than no protection. It would be unrealistic, for example, to expect that all beach goers would wear long pants and shirts, but using shade umbrellas and applying sunscreen would help. Similarly, persuading students to wear hats and

Sun Safety and School Policies: Impediments and Opportunities

Some school policies unintentionally discourage sun protection. One study found the following in a nationwide sample of elementary schools:[21]

- **45% required a prescription for sunscreen;**
- **68% prohibited staff from applying sunscreen to children;**
- **74% prohibited hat use; and**
- **65% prohibited sunglasses use.**

The following policy changes could help:

- **allow students to wear hats and sunglasses, and to carry and use sunscreen at school without a prescription but with the consent of their families;**
- **allow sunscreen to be available at the school;**
- **require sunscreen to be available at school and provide the necessary funding support; and**
- **give students enough time to put on sunscreen before going outside.**

short sleeve shirts rather than sleeveless tops would be an improvement.

Access to shade

Shade provides sun protection. Tall buildings, mountains and trees, especially non-deciduous trees, can provide dense, protective shade. Shade can be created with outdoor shelters, awnings, porches, pavilions, or even umbrellas on lunch tables. Portable shade structures, constructed with posts and a cloth or steel cover, are available and vendors may be willing to donate them to low-income schools. Personal umbrellas also provide shade. Cloth protects best that is dark and tightly woven. In California, shade structures for schools must be approved by the state department of education. Departments of education elsewhere can be consulted.

Shade provides protection from the sun, but it does not always filter out all UV light, which reflects off light-colored surfaces such as snow, sand, water, white or grey gravel, and cement. Sunscreen and protective clothing are still important, even in shaded areas.

Schools can survey their campuses to note where shade exists at different times of the day and where shade is needed, paying special attention to areas that are exposed during the hours of peak sun intensity, about 10:00 AM until 4:00 PM. They should look at any areas where students congregate outside, including playgrounds, places to eat lunch, and waiting areas for school buses. Playgrounds for young children tend to be relatively small and thus are good candidates for shading.

Students can be enlisted to assess how much shade is available on the campus at various times of the day. Community projects, such as a PTA- or PTO-sponsored "tree planting project" for the school, are another option. The Resources section lists organizations that may be able to assist schools with choosing and caring for trees.

Finally, provision of shade should be considered in the design and expansion of schools as well as in the assessment of schools and playgrounds as healthy environments. Covered porches, awnings, breeze ways, and tree plantings are elements to consider when remodeling or constructing schools.

Covered Play Areas

As of 2002, all new schools in Pinellas County, Florida are built with a covered play area for physical education classes that are held outside. This is especially important for the elementary schools in that area, which have no gymnasiums.

Scheduling physical education classes and other outdoor activities

Limiting sun exposure, seeking shade, and wearing protective clothing are the first line of defense against skin cancer. This brings up the question of changes in scheduling for outdoor activities at schools. There may be little or nothing that schools can do in this regard, because school hours include the hours of peak sun intensity and students need daily, vigorous exercise to reduce their risk for conditions such as obesity and type 2 diabetes (see Chapter D, "Policies to Promote Physical Activity," in Part I of *Fit, Healthy, and Ready to Learn*). One solution to this dilemma is to create shade and encourage the use of protective clothing while students are outside.

In Australia, which has the highest rate of skin cancer in the world, some schools have rescheduled afternoon sports events to early evening. This change has proved popular with parents who are then better able to attend.

Prompts or reminders at school

One important action that is not complicated or expensive is to post sun safety posters and signs in places such as playgrounds, sports fields, locker rooms, and on doors that lead to the outside.

Resources

- The **American Sun Protection Association** has detailed information on protective items such as sunscreen, clothing, shade, and sunglasses at **www.americansun.org/pages/products.htm**.
- The *Sunny Days Healthy Ways: Sun-Safe School Guide* published by the **AMC Cancer Research Center** has many suggestions for school policies and actions to prevent skin cancer, including a tool for assessing a school's policies and environment. Download it at **www.sdhw.info/2_policy.html** or **www.americansun.org/ASPA_PDfs/SchGuide.pdf**.
- **Treelink**, at **www.treelink.org/docs/mission.phtml**, provides links to organizations in each state that may be able to help identify preferred shade trees, provide advice about where and how to plant trees, and sometimes furnish trees free of charge. At the home page, type the name of your state into the search engine.
- The **Los Angeles Metropolitan Dermatological Society** site has information about commercial sources for shade structures; see **www.sunsafetyforkids.org/environ.htm**.
- The Schools Program of the **Cancer Council of Australia** has a publication entitled *Shade for Schools* that can be downloaded at **www.nswcc.org.au/cncrinfo/schools/shadeforschools.htm**, or send an email to schoolsprogram@nswcc.org.au. This detailed guide discusses shade planning and design in terms of both practicality and beauty, kinds of plants and trees, and different kind of shade for different purposes. It also provides guidelines for a "shade audit."
- The California-based **William S. Graham Foundation** (the "Billy" Foundation) spearheaded a two-year effort that resulted in California's 2001 sun safety legislation for schools. The foundation is willing to assist skin cancer colleagues in other states and share its insights and tips on the steps for preparing and advocating sun safety legislation for schools. Contact the Billy Foundation at (888) 882-4559 or at **www.bfmelanoma.com**.
- The **National Playground Safety Center** at the University of Northern Iowa, whose mission is to raise awareness about playground safety issues, has tips for limiting playground sun exposure at **www.uni.edu/playground/tips/general/sun_exposure.html**.

4. Sun Safety for School Staff

Sun safety policies must go beyond classroom education, shade, and student behavior. All school *staff members* need to learn how to protect themselves and advise students. They also serve as important role models outdoors. Staff who spend significant portions of their days in the sun, and school health workers such as school nurses, have a particular need for information.

Sun Safety Sample Policy, Part Four:

PROGRAM REQUIREMENTS. All *districts/schools* shall develop a work site sun safety policy and plan to assure that all school staff, particularly those who work outside most of the time, are adequately educated about sun safety, which includes the following topics:

- the harmful and beneficial effects of the sun;
- the relationship between unprotected skin exposure to the sun and skin cancer, as well as premature aging and wrinkling of the skin;
- ways to protect the skin, including the proper use of protective clothing, hats, sunglasses, sunscreen, and lip balm, as well as limiting sun exposure, when possible and practical, during the times of peak sun intensity; and
- the importance of modeling sun-safe behaviors for students.

School nurses and other school health workers shall have sufficient preservice training and participate in ongoing professional development activities to support the sun safety program and effectively counsel students.

Discussion

Sun safety is a serious health issue for staff members as well as students, especially for staff who spend much of their day in the sun. Although outdoor workers have a higher risk of skin cancer, a recent survey by San Diego State University found that only 50 percent of these workers used adequate sun protection.[22] The U.S. Occupation Safety and Health Administration (OSHA) recommends that outdoor workers take precautions against UV radiation,[23] and, as noted earlier, the U.S. Public Health Service regards solar radiation as a carcinogen.[24]

It is unclear whether schools could be held liable for not having addressed work-site issues related to skin cancer prevention—but other employers have been. Legislation in California, for example, provides lifeguards with eligibility for worker's compensation if they develop skin cancer, with the presumption being that the disease arose out

of their employment unless "controverted by other evidence."[25]

Keeping Skin Beautiful

Up to 90 percent of the visible changes to skin that people attribute to aging are, in fact, caused by sun exposure.[26]

Thus, exposure to sun is emerging as a work-site safety issue. The following are the kinds of actions that schools can take:

- educate staff members;
- encourage or require outdoor workers to wear long-sleeved shirts and pants, or at the least discourage the wearing of sleeveless shirts;
- encourage employees to wear sunglasses, sunscreen, lip balm of SPF 15 or higher, and wide-brimmed hats when they are outside;
- provide sunscreen for outdoor employees; and
- provide shaded areas outside and encourage employees to use them.

When school personnel practice sun safety they model important behaviors for students and for one another. Their active participation in the program helps to create a social climate in which skin protection is a behavior that is expected, encouraged, and supported. Employees should be aware of their role in this regard.

School nurses

Nurses and other school health service employees have particular roles to play. It may be the school nurse who initiates a sun-safe program by bringing the issue to the attention of students, staff, and administrators. The Maryland Department of Education suggests that nurses use the state's Sunny Days Healthy Ways Sun-safe Policy Planning Worksheets to assess schools' policies and practices (see the Resources section). Often this assessment begins productive discussions.

A Teacher's Experience with Skin Cancer

"Friday, June 26, 1998 will always be emblazoned in my memory as the day my life changed forever. I was enjoying the first month of summer vacation when the phone rang. It was my dermatologist calling to inform me that the biopsy of a mole he had removed from the center of my back was malignant melanoma! He went on to inform me that I would need surgery as soon as possible, and that he had set up an appointment for July 1, with a plastic surgeon.

"Surgery involved removing a large section of tissue around the original biopsy site as well as the removal of several adjacent lymph nodes to determine if the disease had spread. After two major surgeries, a seven-month experimental vaccine treatment at Duke University, and a year-long regimen of interferon injections, the disease appears to have been halted.

"As a health and physical education teacher for over 25 years, and an avid outdoors woman, I have exposed myself repeatedly to the sun. With my fair skin, I sunburned easily as I enjoyed tennis, swimming, water sports, snow skiing, hiking, and gardening. I also suffered many sunburns growing up. Long before we knew the detrimental effects of sun on the skin and subsequent skin cancer risks, I believed the 'tan is beautiful' myth. I can remember lying out to sunbathe lathered with a combination of baby oil and iodine to achieve the 'ultimate' tan. As you might expect, I now have to be very careful of further sun exposure.

"It is important that young people are taught about the relationship between sun exposure and skin cancer so they may avoid my painful experience."

—Karen Cottrell[27]

Ideas for School Nurses to Promote Sun Protection at School

The following suggestions were developed for school nurses by the Maryland Department of Education in its *Guidelines for Protecting Students and Staff from Overexposure to the Sun* (ordering information below). Other staff members, such as school health program coordinators, health educators, and physical education teachers, could consider taking some of the following actions as well:

- **Include articles about sun safety in the school newsletter and on the school website.**
- **Facilitate student use of sunscreen prior to and during outdoor activities.**
- **Present sun-safe information to parent/teacher associations and other organizations.**
- **Display sun-safe habits on bulletin boards and in the health suite.**
- **Model sun-safe practices.**
- **Promote sun safety activities with the students and school staff.**
- **Support classroom instruction and activities by offering teachers information, resources, and sample lesson plans. Suggestions: MATH—do a project on SPF 15, e.g., "if Jimmy would burn outdoors in 10 minutes..." SPELLING, ENGLISH—assign essays on proactive sun-safe behaviors.**
- **Provide health messages on morning and afternoon announcements.**
- **Collaborate with community partners to promote sun safety throughout the school year.**
- **Assist with school assessment of sun safety.**
- **Provide individual health counseling to students and school staff.**
- **Advocate sun safety by participating in the planning of sun-safe actions such as acquiring outdoor structures that are child safe and provide shade, planting shade trees, conducting a summer safety assembly, or changing PE uniforms to include long-sleeved tee shirts.**
- **Design procedures that detail specific sun-safe behaviors for field trips and field days where long sun exposure times are anticipated.**

School nurses can also help schools think through issues such as the need to prevent the spread of head lice while promoting the use of hats to protect against the sun. They may need to note any sensitivities or allergies to sunscreen as part of a student's health record.

Nurses may also need to keep track of permission slips for students to carry and apply sunscreen at school. They have a counseling role, as well, as when a student consults a school nurse about a painful sunburn.

Resources

- The U.S. **Occupational Safety and Health Administration** (OSHA) has a fact sheet entitled "Protecting Yourself Against Harmful Sunlight," available at www.osha.gov/Publications/osha3166.pdf.
- The **California Department of Health Services** has a *Sun Safety Kit for Outdoor-based Business* with information, fact sheets, guidelines, posters, and more. Visit www.dhs.ca.gov/cpns/skin/index.html.
- The **AMC Cancer Research Center** has a Sun-Safe Worksite Guide that discusses sun safety for employees, policies, and policy development. Policy planning worksheets are also provided. Download this document at www.sdhw.info/2_policy.html or www.americansun.org/ASPA_PDfs/WrkGuide.pdf.
- The *SunSmart* program of Australia's **Anti-Cancer Council of Victoria** provides many materials on the Internet for employers and

BEST COPY AVAILABLE

employees about sun safety, including guidelines for both indoor and outdoor workers. Go to **www.sunsmart.com.au/s/workplace/workers.htm** and follow the links.

- The **Maryland Department of Education** has guidelines for school nurses involved in sun safety programs. The document, entitled *Guidelines for Protecting Students and Staff from Overexposure to the Sun*, includes the policy planning worksheets from the AMC Cancer Research Center document referenced above. To order the documents, call (410) 767-0313 or write to the Health Services Specialist at the Maryland State Department of Education, Students' Services and Alternative Programs Branch, 200 West Baltimore Street, Baltimore, MD 21201.

- The **State of California** law providing workers' compensation for lifeguards who develop skin cancer can be found at **www.leginfo.ca.gov/cgi-bin/postquery?bill_number'ab_63&sess'CUR&house'B&author'vargar.**

5. Family and Community Involvement

Families are students' primary health educators, and family and community involvement are an integral part of school health programs. Policies need to explicitly address these important aspects of the sun safety program.

Sun Safety Sample Policy, Part Five:

PROGRAM REQUIREMENTS. All *districts/schools* shall develop a plan to work with families and the community to support and supplement sun safety efforts at the school. This plan shall describe how families shall be provided with information about:

- the causes of skin cancer and the ways that it can be prevented;
- the school sun safety program;
- sunscreen sensitivity and allergies;
- the importance of children wearing hats to prevent overexposure to the sun, but not sharing hats, which can spread head lice;
- ways that families can reinforce the school-based sun safety program with activities at home; and
- ways that families can become involved with and support the sun safety school program.

School instructional staff shall collaborate with agencies and groups conducting sun safety education and activities in the community to send consistent messages to students and their families. Guest speakers invited to address students shall receive appropriate orientation to the relevant policies of the *school/district*.

Discussion

Protecting young people's health is always a shared responsibility. Families are children's first and most important teachers and role models and their support of school health initiatives is essential.

CDC's *Guidelines for School Programs to Prevent Skin Cancer* identifies the sun safety practices of parents as the most important determinant of children's sun-protective behaviors.[28] Adult family members become role models as they adopt sun-safe habits themselves. Research has also shown that parents respond favorably to messages about sun protection at school.[29] Programs using direct mail, take-home activities, and group instruction have

Parental Support and Modeling is Critical

"Kids, especially elementary kids, do what their parents do and don't have the money to buy sunscreen—and wouldn't buy it if they did have the money."

— Karen Glanz
Cancer Research Center of Hawaii

produced improvements in sun protection for children.[30] Families can be enlisted to make sure that young people practice sun-safe behavior on weekends and during the summer.

Families need information about two special issues regarding sun protection. One concerns sensitivities and allergies to sunscreen. Such allergies are rare but people do sometimes develop a rash if they are sensitive to one of the ingredients. Because different sun screens have different ingredients, another brand can be tried. Families also need to know that while hats provide protection from the sun, hats should not be shared among children as this practice can spread head lice.

Working with schools to establish policy

All adults need to learn about sun safety to protect their health. As they become involved, they model and support preventive behavior for young people and for one another. Policymakers also need to educate themselves about the issue. A dermatologist, for example, could be invited to address the state or local school board.

Florida PTA Resolution

The Florida PTA at its November 2000 convention passed the following resolution:

RESOLVED: The Florida PTA strongly recommends that sun safety, skin cancer prevention and early detection awareness education be mandated throughout the State of Florida as part of education by incorporating it into pre-existing course structure in grades Pre-K–12.

Advice from a School Superintendent

"Don't think that skin cancer prevention programs will work well in schools by just inserting it into the curriculum. It needs to be part of the climate of the community—as being one more thing to do as part of having a safe school. The adults need to be involved and to understand the issue, and they should be targeted first for information. Coaches, athletic directors, and grounds maintenance people should be involved, as well.

"Kids can also raise money for the school program. In my district, one elementary school raised $35,000 by jumping rope. It's a fun activity that gets visibility and that people will pay attention to. They won't necessarily pay attention to something that's written in a book."

— Don Hooper, Superintendent, Fort Bend Independent School District, Sugar Land, Texas

Concerned policymakers should work with other organizations to make sure that the community knows that the problem of skin cancer exists and must be faced. They could work, for example, with PTAs, PTOs, school health advisory councils (where they exist), or the local branch of the American Cancer Society.

Working with the media to bring the issue of skin cancer prevention more directly to the community is also a good idea. Special events at schools or with students can draw media attention. In addition, communities and schools can work in partnership to procure free- or low-cost items for the school, such as sunscreen, hats, shade structures, or trees.

Families, the community, and policymakers should approach schools with the attitude of "how can we help you launch this initiative in light of all the responsibilities you already bear?" As many people already understand the connection between health and student

achievement, it is important to build on this foundation and make new initiatives part of already-existing school health programs.

Community-wide programs really can work. In New Hampshire, a community-based sun protection program worked with schools and other organizations to communicate sun safety messages. The proportion of children with at least some sun protection increased after this community program.[31]

Obstacles and Opportunities to Creating School-Based Sun Safety Programs

Jennifer Dunstan, Assistant Director in the Community Relations Office of the Albuquerque Public Schools in New Mexico, has worked hard to raise awareness about skin cancer prevention in her school community. The Albuquerque Public Schools are participating in a national pilot of the American Cancer Society called Sun Safe Communities. She offers the following experience-based observations:

- **Overcoming lack of information and resistance in the school and community is a major barrier. It can be effective to have an articulate dermatologist address the school board or other influential adult audiences.**
- **Grassroots support to revise a "no hats" policy in schools can be built by canvassing principals about their support for skin cancer prevention efforts. Albuquerque Public Schools sent principals an on-line survey and got enough positive responses to feel that they could move ahead. The Board of Education was approached and agreed to amend the District's dress code to include hats for outdoor activities.**
- **Every spring, the principals' association's newsletter carries articles suggesting that principals' morning announcements on the intercom include information that could help protect students from skin cancer. Principals are asked to suggest that students apply sunscreen at home before coming to school and before outdoor school activities, and to bring sunscreen and a hat in their backpack every day.**
- **School nurses may be willing to either spearhead an initiative or to find someone with the interest and resources to accomplish it. Parent-teacher organizations are another possible boon to the effort. Several elementary schools have erected shade structures funded by the PTA.**
- **It is difficult to get the media interested in skin cancer prevention because many Americans are asleep to the issue. Special events organized in conjunction with the American Cancer Society, however, have been quite successful in gaining media coverage. Ms. Dunstan helped coordinate events such as "melanoma Monday," a "silly hat" contest, and a "wear your hat to recess" contest at elementary schools.**
- **Partnerships can be powerful. In Albuquerque, the state health department gave a grant to the American Cancer Society for a skin cancer radio campaign targeting the parents of children and teens. Another partnership with Albuquerque's Aquatic Department, for the city's swimming pool program, is under development.**
- **Finally, Ms. Dunstan notes that, "Persistence really does pay!"**

BEST COPY AVAILABLE

Resources

- Resources for parents and families are available from the **AMC Cancer Research Center**'s *Sunny Days Healthy Ways* program at **www.amc.org** or call (800) 321-1557.

- The **Los Angeles Metropolitan Dermatological Society** has sample letters to parents on a variety of topics at **www.sunsafetyforkids.org**.

- Parent resources are also available from the *Pool Cool* program of the **Cancer Research Center of Hawaii** at **128.171.232.43/cbhrg/graphical_website/Projects/PoolCool/home.html**.

- The **National Association of State Boards of Education** (NASBE) offers *Building Business Support for School Health Programs: An Action Guide*, which was designed to help coalitions communicate effectively with the public about school health programs. This hands on, step-by-step guide has many sample materials and includes a CD-ROM with a PowerPoint™ presentation. Also available is *How Schools Work and How to Work with Schools: A Primer for Professionals Who Serve Children and Youth*. Contact NASBE at (800) 220-5183 or go to **www.nasbe.org/NASBE_Bookstore/Safe_Healthy.html**.

- The **Weather Channel** has a national campaign, *Rays Awareness*, to educate people about skin cancer, including outreach to communities and schools. Information on its website includes UV radiation levels around the nation and a "personalized sun safety recommendation" based upon zip code, skin tone, and outdoor activity. Visit **www.weather.com/activities/health/skin/raysawareness.html**.

- The **U.S. Environmental Protection Agency** (EPA) has a tracking system by zip code of the schools participating in its *SunWise* program and can help connect you with a school that is participating in your area. Call (202) 565-2096 or send a message at **www.epa.gov/sunwise/contacts.html**.

- Contact your local chapter of the **American Cancer Society** for information about becoming a part of the national pilot program called Sun Safe Communities. To locate a local chapter call (800) ACS-2345 or visit **www.cancer.org**.

References

[1] Public Health Service National Toxicology Program, *Ninth Report on Carcinogens, Revised January 2001* (Washington, DC: U.S. Department of Health and Human Services, 2001). Available: **ehp.niehs.nih.gov/roc/toc9.html**.

[2] Centers for Disease Control and Prevention, "Guidelines for School Programs to Prevent Skin Cancer." *Morbidity and Mortality Weekly Report* 51, No. RR-4 (April 26, 2002). Available: **www.cdc.gov/nccdphp/dash/guidelines/skin_cancer.htm**.

[3] Taylor, H.R., S.K. West, F.S. Rosenthal, et al. "Effect of Ultraviolet Radiation on Cataract Formation." *New England Journal of Medicine* 319 (1988): 1429-33.

West, S.K., D.D. Duncan, B. Munoz, et al. "Sunlight Exposure and Risk of Lens Opacities in a Population-Based Study: The Salisbury Eye Evaluation Project." *Journal of the American Medical Association* 280 (1998): 714-8.

Rosmini, F., M.A. Stazi, R. Milton, R.D. Sperduto, P. Pasquini, and G. Maraini. "A Dose-Response Effect Between a Sunlight Index and Age-Related Cataracts." Italian-American Cataract Study Group, *Annals of Epidemiology* 4 (1994): 266-70.

[4] CDC. "Guidelines."

[5] Grant, W.B. "An Estimate of Premature Cancer Mortality in the United States Due to Inadequate Doses of Solar UVB Radiation, a Source of Vitamin D." *Cancer* 94 (March 15, 2002):1867-1875.

[6] See endnote #2.

[7] Richard David Kann Melanoma Foundation. "Richard David Kann Melanoma Foundation" (West Palm Beach, FL: Author, undated). Available: **www.melanomafoundation.com**.

[8] CDC. "Guidelines."

[9] American Cancer Society, *Cancer Facts and Figures 2002* (Atlanta, GA: Author, 2002): 15-16. Available: **www.cancer.org/downloads/STT/CancerFacts&Figures2002TM.pdf**.

[10] Anti-Cancer Council of Victoria, *Sun Smart Evaluation Studies, No. 6, The Anti-Cancer Council of Victoria's Skin Cancer Control Program 1996/97 and 1997/98 and Related Research and Evaluation* (Victoria, Australia: Author, 1999). Available: **www.sunsmart.com.au/s/z_pdf/resources/Eval6.pdf**.

[11] Buller, D.B., A.G. Geller, M. Cantor, M.K. Buller et al. "Sun Protection Policies and Environmental Features in U.S. Elementary Schools." *Archives of Dermatology* (in press).

[12] Small, Meg L., et al. "School Policy and Environment: Results from the School Health Policies and Programs Study 2000." *Journal of School Health* 71 (2001): 325-333. Access state-level summaries at **www.cdc.gov/nccdphp/dash/shpps/index.htm**.

[13] Buller, D.B. and R. Borland. "Skin Cancer Prevention for Children: A Critical Review." *Health Education and Behavior* 26 (1999): 317-343.

[14] Grant. "An Estimate of Premature Cancer Mortality..."

[15] Bellows, C. et al. "Melanoma in African Americans: Trends in Biological Behavior and Clinical Characteristics Over Two Decades." *Journal of Surgical Oncology* 78 (2001): 10-16.

[16] Shamban, Jill, Executive Director, Richard David Kann Melanoma Foundation, conversation with Jim Bogden, Atlanta, Georgia (August 21, 2002). For more information visit **www.melanomafoundation.com**.

[17] Public Health Service. *Ninth Report on Carcinogens.*

[18] Ibid.

[19] California Senate Bill SB 310, Section 35183.5 added to the Education Code, 2001. Available: **www.leginfo.ca.gov/calaw.html**.

[20] Hall, H. et al. "Prevalence and Correlates of Sunscreen Use Among U.S. High School Students. *Journal of School Health* 71 (2001): 453-457.

[21] Buller, D.B., A.G. Geller, M. Cantor, M.K. Buller, et al. "Sun Protection Policies and Environmental Features in U.S. Elementary Schools." *Archives of Dermatology* (in press).

[22] AMC Cancer Research Center, *Sun-Safe Worksite Guide* (Denver, Colorado: Author, 1998). Available: **www.americansun.org/ASPA_PDfs/WrkGuide.pdf**.

BEST COPY AVAILABLE

[23] Occupational Safety and Health Administration Regional News Release, Office of Public Affairs. "OSHA Recommends Protective Measures for New England Workers Exposed to Ultraviolet Radiation While Working Outdoors." (Washington, DC: U.S. Department of Labor, May 30, 2001). A summary of the recommendations entitled "Protecting Yourself Against Harmful Sunlight" is available at **www.osha.gov/Publications/osha3166.pdf**.

[24] Public Health Service. *Ninth Report on Carcinogens.*

[25] California Assembly Bill No. 663, Section 3212.11 added to the Labor Code, 2001. Available: **www.leginfo.ca.gov/calaw.html**.

[26] CDC. "Guidelines."

[27] Cottrell, Karen and Randy Cottrell. "Don't Get Burned by Skin Cancer." *PBS TeacherSource* (2001). Available: **www.pbs.org/teachersource/whats_new/health/july01.shtm**.

[28] CDC. "Guidelines."

[29] Buller, D.B. and R. Borland. "Skin Cancer Prevention for Children: A Critical Review." *Health Education and Behavior* 26 (1999): 317-343.

Buller, D.B. and R. Borland. "Public Education Projects in Skin Cancer Prevention: Child Care, School, and College-Based." *Clinics in Dermatology* 16 (1998): 447-459.

[30] Ibid.

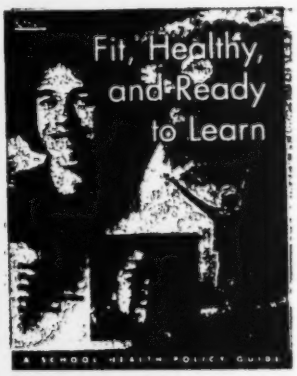
[31] Dietrich, A.J., A.L. Olson, C.H. Sox, T. Tosteson, and J. Grant-Petersson. "Persistent Increase in Children's Sun Protection in a Randomized Controlled Community Trial." *Preventive Medicine* 31: 569-74.

NASBE
NATIONAL ASSOCIATION OF STATE BOARDS OF EDUCATION

School Health Publications

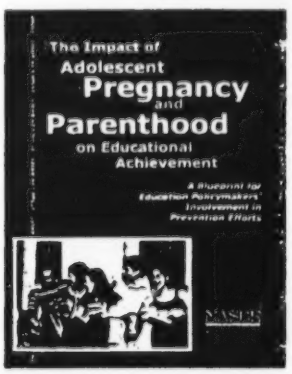
NASBE is recognized as a national leader in going beyond just academic learning to address the overall growth and development of children and youth. NASBE members firmly believe that schools can help children and youth successfully navigate the difficult transition to adulthood.

Someone at School Has AIDS: A Complete Guide to Education Policies Concerning HIV Infection. With endorsements from the AMA, American Academy of Pediatrics, and many other medical and education organizations, this guide offers all the information and recommendations schools need for educational, health, sports and confidentiality policies related to HIV. NASBE's highly-praised and widely-used guide has been updated with current statistics and entirely new resource lists. (2001, 100 pp., $15.00)



Fit, Healthy, and Ready to Learn: Part I—Physical Activity, Healthy Eating, and Tobacco Use Prevention is the first in a series of guides designed to help educators establish effective policies that promote high academic achievement and lifelong healthy habits. It includes guidance on general school health policies and program development, as well as specific information on physical education program design, safety requirements, food service programs, and smoking cessation services. The book is distributed as a set of binder contents for ease of use and future expansion (2000, 236 pages, $22.00)

The Impact of Adolescent Pregnancy and Parenthood on Educational Achievement. This blueprint for the education community's involvement in prevention includes a look at the consequences of teen pregnancy and parenthood, as well as a policy and programmatic framework for prevention efforts (December, 2000, 20 pp., $7.00)



Building Business Support for School Health Programs: An Action Guide provides a concrete, hands-on, step-by-step approach for state and local coalitions to build support for school health programs among the business community. The guide addresses tasks such as assembling communications teams and strategies, working with business leaders, reaching out to the media, and handling difficult or controversial topics. It includes a set of template materials and communications tools on a PC- and Macintosh-compatible CD-ROM. (1999, 136 pp. plus CD-ROM, $29.00)

To order these and other publications call 1-800-220-5183 or go to www.nasbe.org.

BEST COPY AVAILABLE

The National Association of State Boards of Education is a nonprofit, private association that represents state and territorial boards of education. Our principal objectives are to strengthen state leadership in education policymaking; promote excellence in the education of all students; advocate equality of access to educational opportunity; and assure responsible lay governance of public education.

NASBE
NATIONAL ASSOCIATION OF STATE BOARDS OF EDUCATION

277 South Washington Street
Suite 100
Alexandria, VA 22314
703.684.4000
www.nasbe.org

BEST COPY AVAILABLE

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

[X] This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

[ ] This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").